Aerobryidium filamentosum (Hook.) Fleisch. in Nat. Pfl. 1: 821, 1906. *Neckera filamentosa* Hook. Musci Exot. 2: 158, 1819.

In extensive carpets, bright golden green to brownish green Primary stem prostrate, dark brown, about 20 cm long, secondary stems 10-15 cm long, thick and robust, irregularly pinnately branched. Leaves on drying little changed, when moist erecto-patent to spreading, imbricate auriculate, 3-4 × 1 mm, concave, ovate-oblong, suddenly contracted above into a long piliferous acumen almost equal in length to lamina, acumen strongly flexuose at base, undulate towards apex; margin entire, erect; nerve weak and narrow, concolorous, vanishing fairly below the acumen; cells narrowly linear with acute ends 5-6 × 40-50 µ, with a single papilla over the lumen, at base towards nerve rectangular, 8-14 × 40-100 µ, incrassate, pitted, gradually becoming short and narrowly linear towards margin, a patch of cells at insertion quadrate, but do not form well defined alar cells. Capsules not seen.

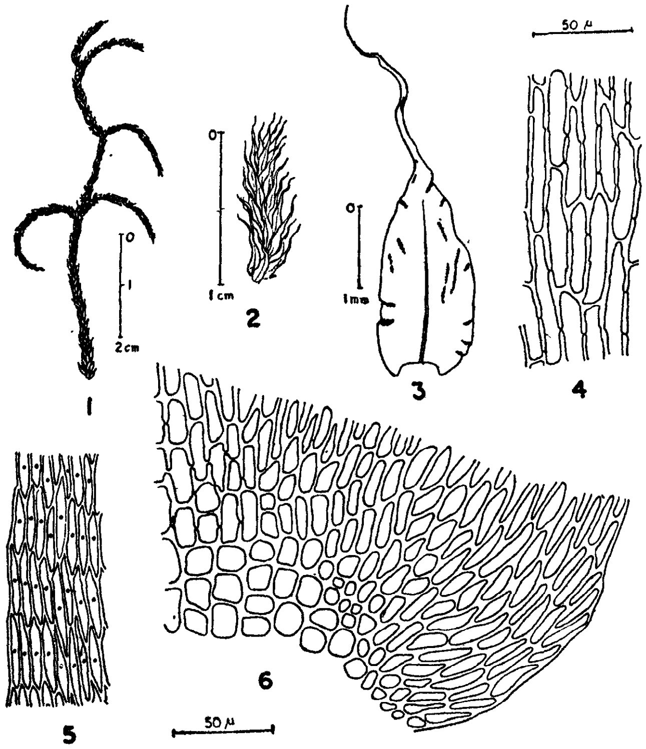

Plate III : *Aerobryidium filamentosum* (Hook.) Fleisch.
Figs. 1-6 : 1. Plant. 2. Apical portion of plant. 3. Leaf. 4. Basal cells towards nerve. 5. Laminar cells. 6. Basal cells towards margin.

Widely spreading dense mats on the bark of *Quercus.*

WESTERN HIMALAYAS: Chakrata, Dehra Dun Dt., 2500 m, March 25, 1963, *Vohra & Wadhwa* 563 (CAL).

ACKNOWLEDGEMENT

The author is much indebted to Mr. A. H. Norkett of the British Museum (Nat. Hist.) London who has been very kind to confirm the identity of the specimens.

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A NEW GENUS OF ARACEAE FROM MADRAS STATE, INDIA

Pauella Ramam. & Seb. gen. nov.

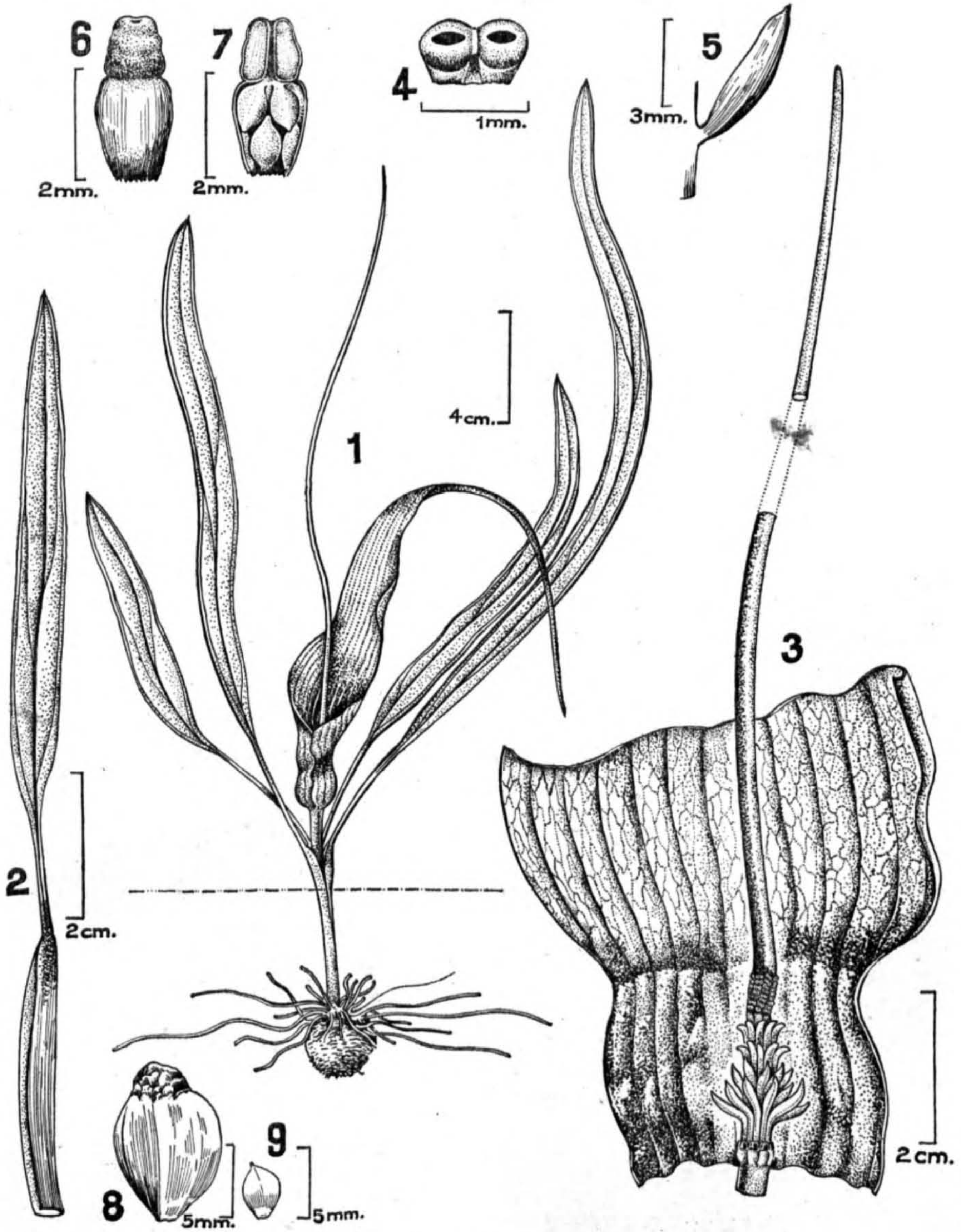
Pertinent ad *Araceas,* trib. *Areas,* subtrib. *Arinas* affinisque est *Theriophonio* Blume, a quo tamen differt foliis radicalibus, lineari-lanceolatis vel oblongo-lanceolatis; limbo spathae acuminato, haud contorto; spadice elongata exserta, eiusque appendice filiformi, ad apicem fastigata, ad basin non truncata sed gradatim in inflorescentiam mergente; floribus neutris inferioribus longis, subulatis, superioribus vero brevibus filiformibus; connectivo non rostrato. Affinis quoque est *Biaro,* a quo tamen differt ovulis 5-9 apicalibus et basalibus.

Herbae tuberosae. *Folia* petiolata, lineari-lanceolata vel oblongo-lanceolata, integra, ad basin vaginantia. *Spatha* tubo brevi praedita infra convoluto, constricto ad os, limbo aperto, late ovato, apice acuminato non contorto. *Spadix* gracilis, exserta, appendice filiformi, non truncata ad basin, sed gradatim mergente in inflorescentiam. *Flores masculini et foeminei* bene disjuncti floribus neutris. *Flores masculini* aggregati in massam cylindricam angustam, perianthio nullo, staminibus 1-2 liberis, antheris sessilibus vel sub-sessilibus globosis dehiscentibus per porum terminalem, connectivo tenui non rostrato. *Flores foeminei* dispositi in unum verticillum ad basin spadicis, liberi, vulgo 5-7, rarius plures, perianthio nullo, ovario uni-loculato, stigmate sessili, pulvinato, ovulis 5-9 basalibus et apicalibus orthotropis. *Fructus* baccatus, globoso-ellipsoideus, erectus et pendulus. *Semina* globoso-ellipsoidea, apiculata.

Species typica sequens.

Pauella sivagangana Ramam. et Seb. spec. nov.

Herbae tuberosae; tubere subgloboso, 1-2 cm diam. *Folia* petiolata, radicalia, longitudinis variae, ad 50 cm longa, petiolo ± 18 cm longo ad basin vaginante; lamina lineari-lanceolata vel oblongo-lanceolata, ad basin attenuata, glabra; nervis haud conspicuis, lateralibus quidem e nervo medio emergen-



Pauella sivagangana Ramam. & Seb.

Figs. 1-9 : 1. Plant. 2. Leaf. 3. Spathe split open (lower portion) showing the spadix with inflorescence. 4. Male flower. 5. Neuter flower. 6. Female flower. 7. L. S. of female flower showing the apical and basal ovules. 8. Fruit. 9. Seed.

tibus, parallele decurrentibus et ad apicem fusis. Pedunculi emergentes e basi vaginante foliorum, ad 10 cm longi. *Spatha* purpurascens, tubo brevi convoluto infra ornata, limbo vero aperto, late ovato, apice acuminato, non contorto, ad 20 cm longo. *Spadix* gracilis exserta; appendice filiformi, fastigata ad apicem, non truncata ad basin sed gradatim mergente in inflorescentiam. *Flores masculini et foeminei* bene disjuncti floribus neutris, qui sunt inferiores quidem longi subulati, superiores vero breves, filiformes. *Flores masculini* aggregati in massam angustam cylindricam, perianthio nullo, antheris sessilibus vel subsessilibus, dehiscentibus per porum terminalem, connectivo tenui non rostrato. *Flores foeminei* dispositi in unum verticillum ad basin spadicis, liberi, vulgo 5-7, raro plures, perianthio nullo, ovario uni-loculato, stigmate sessili, pulvinato, ovulis 5-9, e quibus 3-5 pendent ex apice loculi ovarii, et 2-4 sunt erecti e basi eiusdem ovarii. *Fructus* baccatus, globoso-ellipsoideus, saepe obliquus, seminibus 5-9 erectis vel pendulis, globoso-ellipsoideis, apiculatis.

Holotypus *Ramamurthy 20794 A* et isotypi *Ramamurthy 20794 B-F* lecti die 14 augusti anni 1964 in silva Esani, ad Sivaganga, in Dist. Ramnad, in ditione Madrasensi; paratypi *Ramamurthy 24685 A-F* lecti eodem loco, die 12 septembris anni 1965. Holotypus et paratypus *Ramamurthy 24685 A* positi in CAL; caeteri in MH ad Coimbatore.

Pauella Ramam. & Seb. gen. nov.

Belongs to the tribe *Areae* Engl., subtribe *Arinae* Schott. of *Araceae* and is related to the genus *Theriophonum* Blume, but differs in having radical, linear-lanceolate or oblong-lanceolate leaves; limb of the spathe acuminate, not twisted; spadix elongate, exserted; appendage filiform, tapers towards the tip, not truncate at base but gradually merges into the inflorescence; neuters lower long, subulate and upper short, filform; connective not beaked. Also related to *Biarum*, but differs in having 5-9 apical and basal ovules.

Tuberous *herbs*. *Leaves* petiolate, linear-lanceolate or oblong-lanceolate, entire, sheathing at base. *Spathe* with a short convolute tube below, mouth constricted, limb of the spathe open, broadly ovate, apex of the spathe acuminate, not twisted. *Spadix* slender, exserted; appendage filiform, not truncate at base, but gradually merges into the inflorescence. *Male and Female flowers* well separated with neuters above the female flowers. *Male flowers* aggregated into a narrow cylindric mass; perianth 0; stamens 1-2, free; anther sessile or subsessile, globose, opening by terminal pore; connective thin, not beaked. *Female flowers* arranged in a whorl at the base of the spadix, free, usually 5-7, rarely many; perianth 0; ovary 1-celled; stigma sessile, cushion-like; ovules 5-9, basal and apical, orthotropous. *Fruit* a berry, globose-ellipsoid, 5-9 seeded, erect and pendulous. *Seeds* globose-ellipsoid, apiculate.

The following is the type species.

Pauella sivagangana Ramam. & Seb. spec. nov.

Tuberous *herbs*; tuber subglobose, 1-2 cm across. *Leaves* petiolate, radical, varies in length, upto 50 cm long; petiole ± 18 cm long, sheathing at base; lamina linear-lanceolate or oblong-lanceolate, attenuate at base, glabrous; venation not conspicuous, lateral nerves arising from main nerve, running parallel and fused at the tip. *Peduncle* from the sheathing base of the leaves, upto 10 cm long. *Spathe* purplish, with a short convolute tube below, mouth constricted, limb of the spathe open, broadly ovate, apex of the spathe acuminate, not twisted, upto 20 cm long. *Spadix* slender, exserted; appendage filiform, tapers towards the tip, not truncate at base, but gradually merges into the inflorescence. *Male* and *Female flowers* well separated with neuters above the female flowers; *neuters* lower long, subulate and upper short, filiform. *Male flowers* aggregated into a narrow cylindric mass; perianth 0; stamens 1-2, free; anther sessile or subsessile, globose, opening by terminal pore; connective thin, not beaked. *Female flowers* arranged in a whorl at the base of the spadix, free, usually 5-7, rarely many; *perianth* 0; *ovary* 1-celled; stigma sessile, cushion-like; ovules 5-9, of which 3-5 are pendulous from the top of the cell of the ovary, 2-4 are basal, erect. *Fruit* a berry, globose-ellipsoid, often oblique, 5-9 seeded, erect and pendulous; *seeds* globose-ellipsoid, apiculate (Text figs. 1-9).

The holotype of this species *Ramamurthy 20794 A* and the isotypes *Ramamurthy 20794 B-F* were collected on 14-8-1964 in Esani forest, Sivaganga, Ramnad District, Madras State and the paratypes *Ramamurthy 24685 A-F* were collected in the same locality on 12-9-1965. The holotype and the paratype *Ramamurthy 24685 A* have been deposited in the Central National Herbarium, Calcutta (CAL); the isotypes and other paratypes have been deposited in the Regional Herbarium, Botanical Survey of India, Coimbatore (MH).

KEY TO THE NEW GENUS AND RELATED GENERA

1. Placenta apical and basal; ovaries multiovulate:
    2. Leaf blade sagittate or hastate or pedatifid; appendage of the spadix rather short, included, truncate at base ... *Theriophonum*

2. Leaf blade linear-lanceolate or oblong-lanceolate; appendage of the spadix elongate, exserted, not truncate at base but gradually merges into the inflorescence ... ... *Pauella*
1. Placenta basal; ovaries uniovulate ... *Biarum*

The generic name is given in honour of Rev. Fr. H. Santapau, S. J., Director, Botanical Survey of India.

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NEW PLANT RECORDS FOR THE PUNJAB PLAINS: IV

Cuscuta capitata Roxb., Fl. Ind. (ed. Carey & Wall.) 1: 448, 1820; (ed. Carey) 3: 150, 1832; Clarke in Hook. f., Fl. Brit. Ind. 4: 227, 1883.

This is a West Himalayan species commonly found from Kashmir to Simla between 2000 to 3800 m above sea level. Recently it has been reported from Dehra Dun by Singh (*Bull. Bot. Surv. India* 6: 305, 1964). The taxon can be distinguished from other common species of *Cuscuta* of the Punjab as follows:

Style absent or minute; corolla lobes reflexed; scales prominent. ... ... *C. reflexa* Roxb.
Style present; corolla lobes not reflexed; scales absent or very small
  Stigma capitate, scales absent ... ... *C. hyalina* Roth
  Stigma and style equally long, scales small ... *C. capitata* Roxb.

Specimen examined: Ottobridge (Sirsa), *N. C. Nair* 27711 (May 1963). Parasitic on *Trifolium*. Stem pinkish. Flowers white.

Dactyliandra welwitschii Hook. f. in Oliver, Fl. Trop. Afr. 2: 557, 1871; Bhandari & Singh in Kew Bull. 19 (1): 133, fig. 1 & 2, 1964.

Specimen examined: Hissar, *N. C. Nair* 24973 (October 1962).

This African element was recorded for the first time from India by Bhandari & Singh (*loc. cit.*). The plant can be easily mistaken for *Ctenolepis cerasiformis* (Stocks) Hook. f. There are only very little differences in the nature of the leaf and stipuliform bract between the taxa. It is the shape of the seed which is distinctive for each taxon. *Ctenolepis* and *Dactyliandra* are separated by Bhandari & Singh (*loc. cit.*) as follows:

Seeds more or less planoconvex, smooth; anther thecae straight, connective not or slightly produced and glabrous ...*Ctenolepis*

Seeds irregularly oblong, widest in the middle, truncate at the ends, plus or minus compressed; anther thecae duplicate, connective not produced and glabrous ... ... *Dactyliandra*

Galium aparine Linn. Sp. Pl. 108, 1753; Hook. f., Fl. Brit. Ind. 3: 205, 1881; Collett, Fl. Siml. 235, 1921.

This temperate herb is commonly found in the Himalayas between altitudes 2500-3600 m and has not been reported so far from the plains of India.

This species was found as a common weed in orchards and gardens in Taran Taran (Amritsar Dist.) during March 1966, *N. C. Nair* 36341.

Merremia emarginata (Burm. f.) Hallier f., Bot. Jahrb. 16: 552, 1893; Ooststroom, Blumea 3: 312, 1939. *Ipomoea reniformis* Choisy, Mem. Soc. Phys. Geneve 6: 446, 1833; Clarke in Hook. f., Fl. Brit. Ind. 4: 206, 1883.

Specimen examined: Mahendragarh, *N. C. Nair* 20578 (March, 1962).

Moschosma polystachyum (Linn.) Wall. Pl. As. Rar. 2: 13, 1830; Hook. f., Fl. Brit. Ind. 4: 612, 1885. *Ocimum polystachyum* Linn. Mant. 567, 1767.

Specimens examined: Hissar, *N. C. Nair* 24898 (October 1962). Between Jind & Hansi, *N. C. Nair* 24788 (October 1962).

Oxalis pes-caprae Linn. Sp. Pl. 434, 1753; Calder, Rec. Bot. Surv. India 6(8): 329, tab. 4, figs. 1-5, 1919.

This plant, one of the earliest known members of the genus, is native in Aethiopia. It is common in N. Africa, S. Europe along the Mediterranean, Florida, Sydney, New South Wales and Victoria. In 1913 this plant was collected for the first time in India from Palni Hills by Lady Bourne. Subsequent reports came from Madura and Nilgris. Recently Raizada (*Indian For. Rec.* 1951) recorded it from Meerut. This is the first record of the plant from the Punjab.

Specimens collected: Ferozepore, *N. C. Nair* 36381 & 36384 (March 1966).